

Comments on Santa Ana Regional Sector-Specific Scrap Metal NPDES permit.

10/26/2011

Mr. Michael Adackapara
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501

Dear Mr. Adackapara,

StormwaterRx, LLC manufactures stormwater filtration and treatment best management practices (BMPs) for industrial sites. Our systems have been designed specifically with operating industrial sites in mind and for compliance with the National Pollutant Discharge Elimination System (“NPDES”) Industrial Stormwater Permit requirements. Founded in 2006, StormwaterRx utilizes decades of collective staff experience designing, manufacturing and consulting on stormwater, water purification, and treatment needs of industry. By installing over 150 stormwater treatment systems, many of which were for metal scrap recycling sites, we have significant experience solving stormwater challenges for the types of facilities regulated under the proposed permit.

StormwaterRx hereby provides the following comments on the proposed Sector-Specific General Permit For Storm Water Runoff Associated With Industrial Activities From Scrap Metal Recycling Facilities Within The Santa Ana Region, Fifth Draft, October 14, 2011 (hereinafter “Proposed Scrap Permit”). The Santa Ana Regional Water Quality Control Board’s (hereinafter “the Board”) proposed Scrap Permit raises a number of concerns. These include:

- The basis for using turbidity as parameter rather than total suspended solids, which is the parameter used in the IGP for other industrial sectors in Santa Ana and other SWRCB Regions;
- The lack of documented data that the Board relied on when setting the levels for turbidity and specific conductance;
- The vagueness and lack of guidance concerning the term “advanced media filtration;” and

- The method of sampling for turbidity should be more controlled.

I. COMMENTS

1. The permit should be made consistent with other NDPES permits in California by using total suspended solids instead of turbidity.

The Proposed Scrap Permit should be consistent with the pollutants monitored for in California's Industrial General Permit ("IGP"). It is unclear why the Board chose to require monitoring for turbidity rather than TSS in the Proposed Scrap Permit. Neither EPA's Multi-Sector General Permit ("MSGP")¹ nor the IGP use turbidity as a pollutant parameter. Rather, both use total suspended solids ("TSS"), which may correlate to turbidity.

Turbidity describes the amount of optical diffraction caused by particulates suspended in water indirectly measuring the amount of particulates in the water.² The particulates measured by turbidity can either be solid or liquid (i.e. oil droplets)³ though solid particulates are predominant in turbidity measurements. Turbidity is often used as a surrogate measurement for TSS, which describes the particulates of varied origin, including soils, metals, organic materials and debris that are suspended in a moving body of water. Turbulence keeps the particulates suspended in water allowing the solids to be transported downstream. TSS and turbidity are distinct measurements that provide similar assessment of water quality. Both can be used to assess the impact of solids on a water body. Though "[t]urbidity is an indirect measure of TSS,"⁴ there is no explanation of why the Proposed Scrap Permit prefers turbidity over TSS.

Moreover, using turbidity creates an ambiguous standard when other NDPES stormwater permits in California monitor and regulate TSS. Instead of one standard unit of measurement, there would now be two, making it more difficult to compare performance of BMPs across industries and permits. For instance, it is unclear whether the Proposed Scrap Permit's 250 NTU standard is comparable to 100 TSS, which is the standard in the MSGP and IGP. While the Board based the NALS on the MSGP,⁵ it did not adopt the TSS standard or explain why it used some MSGP benchmarks but not others, such as TSS. Given that California and EPA use TSS as

¹ Available at http://www.epa.gov/npdes/pubs/msgp2008_finalpermit.pdf

² STANDARD METHODS 2-8 (Eaton, Andrew D., et al. eds., 21st ed. 2005).

³ Galvanic Applied Sciences, Inc., Principle of measurement combined 12° / 90° scatter lighthttp://www.monitek.de/techn/pdf_e/scatterlight.pdf (last visited Aug. 9, 2010).

⁴ Proposed Scrap Permit, at FS9.

⁵ See Scrap Permi, at ¶ 27.

the standard parameter, the Board should clearly explain the reasons for its deviation from the IGP and MSGP.

2. The Board must explain and document the basis for the levels set for turbidity and specific conductance to satisfy the best professional judgment standard.

The defensibility of a Best Professional Judgment (“BPJ”) determination is evaluated by reasonableness. Reasonableness, in turn, is demonstrated with documentation. The Proposed Scrap Permits levels for turbidity and specific conductance do not appear to satisfy BPJ.

a. There is no apparent support for turbidity levels of 250/1000 NTU.

The Proposed Scrap Permit and its accompanying fact sheet provide little justification for a turbidity standard of 250 NTU. The Board set the turbidity level using its “best professional judgment, using information related to currently available treatment technologies and monitoring data from scrap metal facilities.” (*See* Scrap Permit, at FS 9). Scrap yards have generally not been required to monitor for turbidity in the past in the Santa Ana Region and thus it is unclear what data the Board relied on when it set the levels for turbidity. The Board’s “data” is not included in the Proposed Scrap Permit or the fact sheet. When compared to the industrial benchmark for stormwater in the state of Washington, which does regulate turbidity instead of TSS, the Proposed Scrap Permit’s turbidity level is set 10 times higher.⁶

Tests conducted by StormwaterRx on turbidity levels from pollutants taken off of a ferrous scrap metal recycling yard showed high TSS levels in samples with turbidity levels that would not require corrective actions under the Proposed Scrap Permit. (*See* Attachment A). For instance, a sample with a turbidity level of 200 NTU had a TSS level of 240 mg/L. (Attachment A-1, sample 4). Under the Proposed Scrap Permit, the turbidity level would not be exceeded nor would any corrective action be required based on turbidity. (*See* Scrap Permit, at 17-27). Yet discharges at such levels of turbidity would likely trigger corrective actions under the California

⁶ *See* Washington Industrial Stormwater General Permit, at 25, available at <http://www.ecy.wa.gov/programs/wq/stormwater/industrial/permitdocs/iswgpfinal102109.pdf>

proposed IGP based on TSS.⁷ It seems then that a turbidity of 250 NTU is high and a less stringent standard than that of the IGP or MSGP.

In sum, it is unclear what the 250 NTU NEL is based on, why it is reasonable, and if the NEL and corrective action level is supported by any documented data. Accordingly, the Board should disclose the data it relied on when setting turbidity levels and the rationale behind setting this exact level before adopting the permit so as to ensure that an appropriate BPJ determination was made.

b. There is no apparent support for the specific conductance levels of 1500/3000 µmhos/cm.

The Proposed Scrap Permit also provides an insufficient justification for the specific conductance levels. The Board set specific conductance based on its BPJ.⁸ According to the Board, “[h]igh [specific conductance] could affect the freshwater habitat beneficial use of a receiving water and the usability of waters for drinking, irrigation, and other commercial or industrial purposes.” (Proposed Scrap Permit, at FS 9). Yet the Proposed Permit allows for 1500 µmhos/cm, which is “much higher than the specific conductance for rainwater.” (*Id.*). The only justification for this level is that it “provide[s] credit for chemical treatment that reduces toxic pollutants but increases the ionic content of water.” (*Id.*). This justification raises two issues. First, there is no explanation of how this exact level of specific conductance was arrived at, i.e. why 1500 rather than 500 or 200? Second it “provides credit for chemical treatment” that may never occur since chemical treatment is not required of all facilities. Neither the Proposed Scrap Permit nor its accompanying fact sheet contain any data or discussion of data that support the NEL at this effluent level. Accordingly, it is unclear what 1500 µmhos/cm is based on, why it is reasonable, and whether the NEL and corrective action level is supported by documented data.

Like the corrective action levels set for turbidity, the specific conductance NEL appears high. The Proposed Scrap permit sets electrical conductivity at 1500 µmhos/cm with the average daily set at 3000 µmhos/cm. In contrast, the proposed IGP sets electrical conductivity at 200 µmhos/cm. It is unclear why the Board set electrical conductivity 7 times higher than the

⁷ See Draft IGP, Jan. 28, 2011, at §XVII.E.1, available at http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/industrial/p_igp_jan.pdf

⁸ Proposed Scrap Permit, at fn. 25, 26, 37, 38, and FS 9.

proposed IGP. If the Board sets specific conductance for scrap metal recyclers at a level higher than other industries, it should explain in sufficient detail why it has done so.

3. “Advanced Media Filtration” Should Be More Clearly Defined.

The Proposed Scrap Permit requires “advanced media filtration” or “other treatment controls” in a few contexts. Yet the permit does not provide any guidance as to the meaning of those terms or the required efficacy of such controls. StormwaterRx recommends that any selected “advanced media filtration” system or “other treatment controls” be *required* to meet NELs/NALs when combined with other BMPs. The concern is that under the terms of the Proposed Scrap Permit, a permittee could do very little, such as install a catch basin insert that fails to meet NELs/NALs, yet the permittee could still “meet the BAT/BCT effluent limitations” and its discharge would “constitute a water-quality based effluent limitation as per 40 CFR § 122.44(k)” after implementing a Phase III Corrective Action Plan. (*See* Proposed Scrap Permit, at § III.D.6.c.). Under such circumstances, it appears that a permittee would not be implementing BMPs yet technically could be in compliance with its permit. Does the Board intend such a result?

4. The method for sampling turbidity should be more controlled.

Unlike TSS, the turbidity of a stormwater sample can change over time due to natural flocculation as the sample stabilizes. If the intent of the permit is to rely heavily on Turbidity measurements to protect water quality at the point of discharge at the time of discharge, then in-situ, instantaneous measurement is necessary. There are many existing technologies and methods for accomplishing this—from portable units and submersible sondes to permanently-installed sensors with data logging capabilities—thereby making this a reasonable requirement.

II. CONCLUSION

Based on the comments above, StormwaterRx urges the Board to address these concerns before adopting the Proposed Scrap Permit.

Very Truly Yours,

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ATTACHMENT A

Ferrous Scrap Metal Recycling Yard










Ferrous Scrap Metal Recycling Yard



EPA 
benchmark



Conc. (BM), mg/L	5	4	3	2	1
TSS (100)	660	240	 75	45	ND (0)
COD (120)	125	120 	46	29	ND (0)
Iron (1.0)	39	14	-	-	 ND (0)
Aluminum (0.75)	22	7.8	-	-	 ND (0)
Copper (0.0636)	1.0	0.38	-	 -	ND (0)
Zinc (0.117)	3.7	1.37	-	-	 ND (0)
Mercury (0.0024)	0.00536	 ND	-	-	ND (0)

How much is this?

- Mass of pollutant
- 3 acre yard
 - 20 inches/yr
 - 95% runoff



Lbs per yr	5	4	3	2	1
TSS	8,500	3,100	960	570	0
COD	1,600	1,500	600	380	0
Iron	510	180	-	-	0
Aluminum	290	100	-	-	0
Copper	13	4.9	-	-	0
Zinc	48	18	-	-	0
Mercury	0.07	<0.02	-	-	0